Hearing Aids Communication

Integrating Social Interaction, Audiology and User Centered Design to Improve Communication with Hearing Loss and Hearing Technologies

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Chapter 16

Conclusions and future perspectives for application and innovation

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In developing an interdisciplinary approach integrating Conversation Analysis ("CA"), audiology and User Centered Design, the applied goal of this international collaboration is to analyze real-world social interaction from the perspective of the participants in order to build an empirical basis for innovation in the field of communication with hearing impairment and hearing aid use. In reviewing theory, methodology and analysis of eight cases analyzed in this volume, the editors assess the potential of application for the various stakeholders in communication with hearing loss and hearing aids, including the estimated impact factor. The chapter closes with a consideration of desiderata for future research.

The last decades have seen continuous technological development of hearing aids in terms of size, acoustic properties and flexible handling, resulting in increasingly smaller and almost invisible instruments with a wide range of features. Still, the rate of hearing aid supply and use is rather poor, as described in ch. 1 - 3. Neither innovation in technology nor opportunities for medical support have changed this unsatisfying picture. The reasons seem to go back to interactional, emotional, societal and technological problems. Of these reasons, social interaction is researched the least.

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This volume sets out to explore prospects for change by focusing on the interaction between persons with hearing impairment and their partners, both in everyday, medical, and audiological contexts. The papers in this volume provide new insights into how these interactions are structured, how problems arise and how participants deal with them. In this chapter, we turn to the perspective of application and ask: Which prospects for improvement and innovation do the studies collected in this volume open up? We are addressing this question by attending to the different social groups of stakeholders to whom hearing loss becomes relevant in one way or another.

1. Hearing loss communication in everyday life and at the workplace

The first stakeholder group, of course, consists of the persons with hearing loss in their everyday life at home, at work and in public. Interactional studies on hearing loss show what problems can be expected to occur in interaction (like mishearings and ensuing problems such as wrong inferences), and what sites are most difficult to deal with for a hearing impaired person (like multi-party interaction, interaction in cars, noisy environments). Examples from video tapes of naturally occurring encounters can be used as a basis for enhacing people's awareness to situations which are likely to cause problems. They can be used to develop strategies to deal with expectable problems preemptively, i.e., by arranging spatial and auditory environments, bodily pos-

Stakeholder groups:

- persons with hearing loss

tures, seating arrangements, etc. in a way which fosters hearing conditions as much as feasible. The same applies to skills of adapting the hearing aid to personal and situational contingencies.

The second stakeholder group consists of almost everybody because due to the prevalence of hearing loss, each normal hearing person is likely to communicate with a person with hearing loss in public encounters, at the workplace, and in private situations with family and friends. Interactional studies show the 'normal' consequences of hearing loss in interaction. However, the personal experience and the expectable consequences of hearing loss are little known so that people with and without hearing loss will benefit from better knowledge. Such knowledge can be gained from video-taped interaction. For example, descriptions of hearing impaired persons' experiences convey what an altered auditory relationship to the world and, most importantly, to others feels like. If knowledge about the interactional and experiential realities of hearing loss is made publicly available, both to hearing impaired persons and to their communication partners, this will result in an enhanced understanding and acceptance of the normalcy of problems and experiences associated with hearing loss. This will help to reduce embarrassment and uncertainty for hearing impaired persons.

- persons with normal hearing in interaction with partners with hearing loss

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Interactional studies, however, do not only lay bare the nature and the causes of communication problems associated with hearing loss. They also highlight successful strategies of dealing with problems in everyday settings, namely, interactional practices of checking and securing understanding. In various ways, interactional studies provide the basis for designing materials containing information like brochures, DVD's or supportive websites (like they are already available for other kinds of illnesses and impairments, see, e.g., www.healthtalkonline.org) to deal with hearing loss in the way it is experienced in its social context. The goal is to empower patients, supporting them in their struggle to cope with the consequences of hearing loss, to equip them with strategies which help them to master hearing problems and make them a part of an integrated agentive identity. Relevant information includes knowledge about symptoms and consequences of hearing loss in social situations, its impact on social relationships, the personal experience of hearing loss and its relevance to well-being, strategies to deal with problematic interactional situations and strategies for the use of hearing aid technologies and their adaption to everyday settings.

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Information of this kind will not only be valuable for the persons (already) affected by hearing loss, but also to the wider (still unaffected) public. This is particularly important because first symptoms of hearing loss tend to get neglected and downplayed in their relevance. Better knowledge and less stigmatization will increase awareness and readiness to actively deal with the problem already in the initial stages.

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Given the high incidence of hearing loss, almost every citizen is likely to take part in interactions with people who have a hearing loss. It is a basic interactional task for all those who regularly interact with hearing impaired persons, e.g., in the family, at the workplace or at school, to arrive at communicative solutions which work as to minimize communicative impairment, which, after all, affects all participants. Enhanced knowledge will sensitize people for problems which are likely to be encountered. From an interactional view, it must be underscored that dealing with hearing impairment in interaction is a collaborative task for all participants, meaning that the unimpaired partner has to contribute his/her share to the collective endeavor of accomplishing intersubjective meanings in the same way the impaired person needs to (see Skelt, ch.7, Pajo, ch.8, and Laakso, ch.14, this volume). The person with hearing loss is not so much simply impaired as an isolated individual. Degree and reality of impairment unfold in the social context. They

Dealing with hearing loss is a collaborative task of the normal hearing partner and the partner with hearing loss.

depend on how interactional partners cooperate in overcoming problems associated with hearing loss. In the first place, this implies that problems due to stigmatization and unrealistic expectations are less likely to emerge. This requirement is not as easy to fulfill as it might seem at first sight, because communicative support destined to warrant common understandings, e.g., via repair and overarticulation, might also work in the opposite direction as it draws attention to the disability (see Skelt, ch.7, Pajo, ch.8, and Laakso, ch.14, this volume). Instead, the social network of the hearing impaired person can learn to anticipate problems, to see how they are co-responsible for interactional outcomes and to use strategies to foster communicative success.

Opportunities for social support are particularly important with respect to hearing problems at the workplace. Economical loss, motivational problems and social disintegration are associated with hearing loss (Christensen 2006a/b); cf. also Egbert/Deppermann, ch.1, this volume). Since these problems seriously affect both the hearing impaired person, colleagues and employers, it is most vital to prevent these negative consequences. Studies on the everyday reality of hearing loss are needed to identify socio-ecological factors of well-being at the workplace in terms of stress reduction, health and safety in the workplace, and interactional management of hearing problems. Information is needed in order to enhance awareness about which factors impair and which factors contribute to a sustainable integration of hearing impaired persons at the workplace. One related arena is the integration of hearing impaired students in school. Groeber/Pekarek-Doehler (ch.9, this volume) show how the fine-grained analysis of classroom interaction uncovers problems and dilemmata of interactional participation of hearing impaired children which are hidden from a more global socio-psychological or political point of view. They show that workable solutions to communication problems, which aim at social integration in accordance with the "Convention on the Rights of Persons with Disabilities" propagated by the United Nations, need to take the local contingencies of situated interaction into account. Improvement will involve (job) health policies on the levels of legislation and organizational implementation, but it will include interactional strategies on a more local, interpersonal level as well. In particular, more attention needs to be paid to possibilities and necessities of prevention of detrimental effects which can be avoided by suitable arrangements and support for persons with hearing impairment.

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2. Hearing loss communication in health care

A second group of studies assembled in this volume deals with interaction of hearing impaired persons with health care professionals. General practitioners (see Deppermann, ch.10, this volume), ear, nose and throat doctors, and audiologists (see Heinemann et al., ch.12, this volume and Brouwer/Day, ch.13, this volume) until now are not trained to attend to the interactional dimension of hearing loss, although it becomes eminently relevant in their professional encounters with patients. Still, taking linguistic and interactional aspects into account is a key to the improvement of diagnosis, treatment and patients' compliance. With respect to history taking, doctors need to become sensitive to the precise ways in which patients describe their troubles in order to use the patient's descriptions for refined diagnosis (see Deppermann, ch.10, and Gülich, ch.15, this volume). This is also vital to successful fitting of hearing aids adapted to the patient's individual experiences and contexts of use (see Heinemann et al., ch.12, this volume). Patients' descriptions point to obstacles against hearing aid use, which may result from fear of stigmatization, anticipated damage to personal identity and unrealistic

expectations regarding the benefits of the hearing aid (see Mourtou/Meis, ch.2, and Brouwer/Day, ch.13, this volume).

Therefore, doctors and audiologists will profit from training in how to listen closely to the patient. They need to learn to attend to the details of the patient's talk in order to identify problems well beyond physiological aspects of hearing loss which are crucial for successful and sustainable treatment and which thus inevitably need to be dealt with in the clinical encounter. In addition to information materials which avert to the interactional aspects of hearing aid treatment, programs of communication training based on conversation-analytic insights need to be developed. Trainings will have to provide skills concerning the delivery of information to the patient, diagnostic listening to key formulations, successful conduct of medical and audiological interaction in terms of warranting the patient's participation and the systematic exploration of the patient's problems, attention to psycho-social aspects, identity concerns and expectations.

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Another field of linguistically based improvement concerns testing procedures. Bonner (ch.11, this volume) highlights inadequacies of speech perception tests, which result from the neglect of language-specific properties of the phonetic system and from not taking regional variation and properties of colloquial speech into account. Linguists are called to take part in the development of tests which are better adapted to linguistic reality, which are more sensitive to abilities of speech perception in conversational contexts and which avoid artifacts due to linguistically flawed premises of test-construction.

3. Conclusion

In the introduction to the volume, we have argued that hearing impairment needs to be analyzed directly where it occurs, with an analytical focus on the participants' perspective. In addition to taking medical and technical aspects into account, it is necessary to study interactional, societal, and political orders ranging from micro to macro contexts (see the Introduction to this volume, ch.1). The studies collected in this volume suggest that the interactional level is particularly decisive for a better understanding of hearing problems and for innovation in its treatment. This is because it is in social interaction that both the physiological, medical and technical aspects of hearing impairment and hearing aids and the more abstract orders of social, economic and political organization become a lived reality in terms of subjective and interpersonal experience. Therefore, it is a most obvious thing to do to look for innovation and potentials for change in sites of social interaction where hearing impairment and hearing aid use become relevant. This task becomes relevant a fortiori as the importance of interaction to hearing impairment has been grossly underrated and as hearing impairment interaction has not yet become an object of systematic scientific and applied endeavors. To be sure, this does not mean that all problems will find their solution at the level of social interaction. However, social interaction is the touchstone by which the relevance and implementation of more abstract conditions and policies is to be measured and which sets up criteria for successful coping with hearing impairment.

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Keeping this crucial role of social interaction in mind, we can see that research on interaction with hearing impairment and on the use of hearing aids in interaction impacts also on broader, less local orders of stakeholders. Health care policies (institutional, national, European Union, WHO-standards) can only be successful if professionals are trained to implement abstract policies successfully in the minute details of caregiver-caretaker interaction (see Brouwer/Day, ch.13, this volume). Therefore, it is of immediate political interest to introduce the knowledge and skills concerning the

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interactional aspects of hearing impairment into the education and training of medical and audiological professionals.

Hearing aid companies deplore that the saturation of the market ranges between only 20 to 40% currently (depending on the country, see Egbert et al., ch.3, this volume). The studies in this volume suggest that acceptance and use of hearing aid technology does not only depend on technical affordances, but also importantly on social factors. It is not technology as such which accounts for patterns of its use, but its social contextualization which is mediated by politics of knowledge and identities and by various kinds of social inequalities (see Keating/Raudaskoski, ch.4, this volume). More adequate advertizing in terms of creating realistic expectations in prospective users (thus preventing non-use because of disappointment of unrealistic hopes), improved management of the interaction with clients in terms of exploring their problems, contexts of use, and expectations more systematically, explaining and checking skills to handle the hearing aid, etc. and more personalized support for the user is necessary to enhance acceptance of hearing aids as a helpful technology.

The hearing aid industry will benefit from achieving a better understanding of communication with hearing loss and hearing technologies by a higher market saturation.

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This volume is only a beginning. Much more basic research is still needed in order to explore how hearing loss and hearing aid use is dealt with in different contexts of social interaction, how audiological and medical interactions with hearing impaired persons are structured and may be optimized, how User Centered Design can take up insights form Conversation Analysis for the design of hearing aids (see Matthews/Egbert, ch.6, this volume). We need interdisciplinary collaboration in order to get to know better the various interactional contexts, tasks, and problems which are relevant to hearing loss and use of hearing aids. This turn to the actual sites of hearing loss and hearing aid use in everyday life promises to gain better insights into patients' concerns and their (non-)use of hearing instruments, both by asking them in interviews and questionnaires, and also by observing their everyday practices, thus finding practices and structures in the reality where they are lived, beyond people's retrospective beliefs and evaluations (see Egbert/Deppermann, ch.5, this volume).

The interdisciplinary collaboration, international comparison and pioneering research reported in this volume is a starting point.

The interdisciplinary approach needs to be complemented by an international approach. Since there are national differences, (see Egbert et al., ch.3, this volume), comparative studies are needed in order to detect problems which remain hidden from a perspective which focuses on just one country. In order to arrive at guidelines and tools of a best practice, the diversity of different health care systems, languages, and cultures has to be taken into account.

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While we conducted the research presented in this edited volume, we have formed an international network "Hearing aids communication". On our internet site hearing-aids-communication.org, we are reporting on new projects and other network activities.